

WHAT IS CLAIMED IS:

1. A printed circuit board wiring configuration check system for checking a wiring configuration which is tentatively designed on a printed circuit board,

5 comprising:

an object determination unit for determining if there exists a high speed signal wiring as a result of evaluation using a predefined equation which contains at least a part of circuit information of said printed circuit board as a variable, said determination being executed after extracting a pair of a driver and a receiver sequentially from a group of components existing on said wiring, and after extracting circuit information of said driver corresponding to one of said pair;

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a segment extraction unit for extracting a segment that is nearest to said board edge from a group of segments each defining a set of a minimum unit of a wiring configuration for said wiring;

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a plane edge specifying unit for specifying a plane edge that is nearest, in a perpendicular direction, to a wiring between a driver and a receiver in said segment as a result of a survey of the wiring configuration of said segment extracted;

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a unit for determining a perpendicular distance between the wiring extending from the driver to the receiver of said segment and said plane edge;

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a unit for computing a minimum interlayer distance required between a wiring layer of said segment and a layer of said plane on the basis of a pattern and a circuit design specification on the wiring configuration of the extracted segment;

a distance determination unit for comparing said perpendicular distance determined and said interlayer distance computed; and

5 a message display unit for displaying a message that contains a predetermined instruction corresponding to said wiring in accordance with a result of determination by said distance determination unit.

10 2. A printed circuit board wiring configuration check system as claimed in claim 1, further comprising:

a unit for computing a voltage level of a pulse current flowing through said wiring according to said circuit information; and

15 a second object determination unit for determining a presence of a high speed signal wiring when said voltage level computed is not lower than a predetermined reference voltage.

20 3. A printed circuit board wiring configuration check system as claimed in claim 2, wherein

said unit for computing the voltage level of the pulse current computes a voltage level thereof on the basis of a result of determination of a predetermined conditional equation which contains, as its variable, a
25 maximum applicable frequency, a rise time, a pulse width and an amplitude that are included in said circuit information.

30 4. A printed circuit board wiring configuration check system as claimed in claim 1, wherein

said wiring configuration is classified, as its type, a micro strip line, a single strip line, or a double strip line.

5 5. A printed circuit board wiring configuration check system as claimed in claim 1, further comprising
a display unit for displaying a message in
accordance with a result of computation obtained using a
predetermined mathematical equation which contains at
10 least a part of said circuit information as its variable.

6. A method for checking a wiring configuration which is tentatively designed on a printed circuit board, comprising the steps of:

15 determining if there exists a high speed signal wiring using circuit information of said printed circuit board, said determination being executed after extracting a pair of a driver and a receiver sequentially from a group of components existing on said wiring, and after
20 extracting circuit information of said driver corresponding to one of said pair;

extracting a segment that includes said high speed signal wiring and is nearest to said board edge from a group of segments each defining a set of a minimum unit
25 of a wiring configuration for said wiring;

specifying a plane layer edge that is nearest, in a perpendicular direction, to a wiring between a driver and a receiver in said segment extracted;

determining a perpendicular distance between the
30 wiring extending from the driver to the receiver of said segment and said plane layer edge;

computing a minimum interlayer distance required between a wiring layer of said segment extracted and said plane layer;

- 5 comparing said perpendicular distance determined and said interlayer distance computed; and

displaying a message that contains a predetermined instruction corresponding to said wiring in accordance with a result of said comparison.

- 10 8. A computer readable medium containing the computer program claimed in claim 7.